US Army Corps of Engineers®
Engineer Research and Development Center

Combat Terrain Information Systems

Description

Combat Terrain Information Systems (CTIS) is the Project Management Office (PMO) responsible for the acquisition of tactical terrain analysis capabilities for the U.S. Army. CTIS program capabilities are an integral requirement of the Army Battle Command System (ABCS), the Distributed Common Ground Systems-Army (DCGS-A), and Future Combat Systems (FCS).

DTSS-L (HMMWV Shelter)

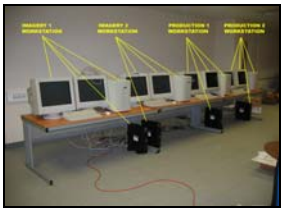
Capabilities

CTIS provides digital geospatial data and products to commanders and weapons platforms in support of mission planning (e.g., Intelligence Preparation of the Battlespace [IPB]), rehearsal (e.g., simulations), and execution (e.g., Common Operational Picture [COP]). CTIS also provides automated terrain analysis and visualization, terrain data base development, update, management, and distribution, and graphics reproduction.

DTSS-D (in Carrying Cases)

CTIS supports a family of Digital Topographic Support Systems (DTSSs) designed to meet the geospatial data needs at various Army echelons:

- Digital Topographic Support System-Light (DTSS-L)
- DTSS-Deployable (DTSS-D)
- DTSS-Base (DTSS-B)
- High Volume Map Production (HVMP) equipment.



DTSS-B (Garrison Only)

These systems are fielded to the U.S. Army Engineer Terrain Teams at Theater, Corps, Division, Maneuver and Aviation Brigade Combat Teams, Stryker Brigades, and Special Forces Groups. More than 180 DTSS systems (Light and Deployable) have been fielded to Army Terrain Teams and are deployed around the world.

DTSS-HVMP (5-Ton Shelter)

Supporting Technology

Through a combination of operator workstations, commercial-off-the-shelf (COTS) and government-off-the-shelf (GOTS) software packages, custom software components, and large-format printing and plotting devices, DTSS enables mission planners to compile information from a multitude of government and commercial data from U.S., Joint, coalition, and host nation sources. This information is used to create or enhance digital data that provides the common map background for all Army Battle Command Systems (ABCS).

DTSS-L is a tactically mobile system configured with an environmentally controlled shelter on a High Mobility Multipurpose Wheeled Vehicle (HMMWV). DTSS-L provides the capabilities to analyze, generate, manage, and disseminate geospatial information. The DTSS-L includes the Army Map Server, a server and storage device created mostly from COTS software that centrally manages the Army's geospatial data. Using a web browser over the Army's tactical internet, other ABCS and Army net-centric systems can access specific geospatial data and terrain products from the Army Map Server for use on their own systems.

DTSS-D is a ruggedized computer system with components that are placed into hardened transit cases to facilitate deployment with tactical forces. DTSS-Ds are highly mobile and are typically used to augment the DTSS-Ls when a unit deploys.

DTSS-B is a theater-level asset in a fixed facility located with select Engineer Battalions and at bases of operation in theater. It gives the theater-level terrain team the capability to generate data and to augment existing databases to provide commanders and warfighters with geospatial information and terrain data for mission-critical areas.

The High Volume Map Production (HVMP) system is a tactically mobile, forward deployed system with the capability to generate hardcopy maps, charts, and situation overlays at a high rate and volume from the updated digital geospatial information for distribution to warfighters and commanders in theater. It is especially important for supporting coalition forces that do not have the same level of battle command digitization. The DTSS-L is highly mobile and capable of supporting a full range of military operations, as well as peacetime stability and support operations. The DTSS-D consists of transportable workstations and peripherals, housed in transit cases that can be set up to augment the tactical configurations. The DTSS-D does not include tactically deployable shelters and vehicles, or tactical communications.

Benefits

The CTIS family of DTSS systems forms an integral part of the ABCS, and manages all of the geospatial information that feeds the COP. DTSSs meet the requirements of the ABCS architecture for state-of-the-art, detailed, terrain analysis, terrain visualization, and terrain data management and dissemination capabilities.

DTSSs provide the ability to use geospatial information as the background on top of which situational awareness information is displayed, such as friendly forces, enemy forces, and manmade and natural obstacles along with graphic control measures. Other DTSS terrain analysis products, such as intervisibility and mobility analyses, can also be integrated into the COP.

Success Stories

Every major combat unit in both Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) has DTSS functional capabilities. DTSS supports U.S. and Coalition OEF and OIF forces by providing geospatial information in direct support of daily counter-insurgency missions to include combat patrolling, infrastructure rehabilitation, and improvised explosive device (IED) suppression.

The DTSS terrain teams support the commander's military decision making process (MDMP). In many units, a DTSS fly-through is a part of every battle update brief and operations plan, and the information provided gives the battle staff the ability to visualize the area of operation. For rapid operations, DTSS gives commanders the capability to view the same geospatial information simultaneously at different locations and to aid one another with mission planning and analysis.

ERDC POC(s)

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